

Application No. 10/649,965
Supplemental Amendment dated August 23, 2005

Docket No. 12-2-5119

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A camera comprising:

an image-taking optical system which includes a focusing lens and a zooming lens;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects a focal length of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the focal length detected by the state detector; and the controller sets the deceleration control pattern in which, when the focal length of the image-taking optical system is on a wide-angle side closer to a wide-angle end than a predetermined focal length, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the focal length is on a telephoto side, after a remaining driving amount becomes equal to or less than a predetermined amount.

2. - 7. (cancelled)

8. (previously presented) A camera comprising:

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an image-taking optical system which includes a focusing lens and a
zooming lens;
a motor which drives the focusing lens;
a position detector which detects a position of the focusing lens;
a controller which controls the motor such that the focusing lens is
stopped at a target position by performing deceleration control from the time when a difference
between the target position and the position detected by the position detector is equal to or
smaller than a predetermined amount; and
a state detector which detects a focal length of the image-taking optical
system,
wherein the controller changes the predetermined amount in accordance
with the focal length detected by the state detector.

9. (cancelled)

10. (previously presented) The camera according to claim 8, wherein the
controller sets the predetermined amount to a smaller amount when a focal length of the
image-taking optical system is on a wide-angle side closer to a wide-angle end than a
predetermined focal length as compared with an amount set when the focal length is on a
telephoto side.

11. - 15. (cancelled)

16. (previously presented) A lens apparatus comprising:

an image-taking optical system which includes a focusing lens and a

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zooming lens;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects a focal length of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the focal length detected by the state detector, and

the controller sets the deceleration control pattern in which, when the focal length of the image-taking optical system is on a wide-angle side closer to a wide-angle end than a predetermined focal length, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the focal length is on a telephoto side, after a remaining driving amount becomes equal to or less than a predetermined amount.

17. - 19. (cancelled)

20. (previously presented) A lens apparatus comprising:

an image-taking optical system which includes a focusing lens and a zooming lens;

a motor which drives the focusing lens;

a position detector which detects a position of the focusing lens;

a controller which controls the motor such that the focusing lens is

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stopped at a target position by performing deceleration control from the time when a difference between the target position and the position detected by the position detector is equal to or smaller than a predetermined amount; and

a state detector which detects a focal length of the image-taking optical system,

wherein the controller changes the predetermined amount in accordance with the focal length detected by the state detector.

21. (cancelled)

22. (previously presented) The lens apparatus according to claim 20, wherein the controller sets the predetermined amount to a smaller amount when a focal length of the image-taking optical system is on a wide-angle side closer to a wide-angle end than a predetermined focal length as compared with an amount set when the focal length is on a telephoto side.

23. – 25. (cancelled)

26. (original) A camera system comprising:

the lens apparatus according to claim 20; and

a camera on which the lens apparatus is mountable.

27. (canceled)

28. (previously amended) A camera comprising:

an image-taking optical system which includes a focusing lens and a diaphragm;

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a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a deceleration pattern selected from a plurality of deceleration patterns which includes different deceleration rate; and

a state detector which detects a state of the diaphragm of the image-taking optical system,

wherein the controller select the deceleration pattern based on the state of the diaphragm detected by the state detector.

29. (previously presented) A camera comprising:

an image-taking optional system which includes a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects an aperture value of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the aperture value detected by the state detector; and

the controller sets the deceleration control pattern in which, when the

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aperture value of the image-taking optical system is on a narrowed side relative to a predetermined aperture value, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the aperture value is on an opened side, after a remaining driving amount becomes equal to or less than a predetermined amount.

30. (previously presented) A camera comprising:

an image-taking optical system which includes a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a position detector which detects a position of the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control from the time when a difference between the target position and the position detected by the position detector is equal to or smaller than a predetermined amount; and

a state detector which detects an aperture value of the image-taking optical system,

wherein the controller changes the predetermined amount in accordance with the aperture value detected by the state detector, when the aperture value of the image-taking optical system is on a narrowed side relative to a predetermined aperture value.

31. (previously presented) The camera according to claim 30, wherein the controller sets the predetermined amount to a smaller amount when the aperture value is on

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a narrowed side relative to a predetermined aperture value as compared with an amount set when the aperture value is on an opened side.

32. (previously presented) A lens apparatus comprising:

an image-taking optical system which include a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects an aperture value of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the aperture value detected by the state detector.

33. (previously presented) The lens apparatus according to claim 32, wherein the controller sets the deceleration control pattern in which, when the aperture value is on a narrowed side relative to a predetermined aperture value, the motor is decelerated for stopping at a deceleration rate smaller than a deceleration rate when aperture value is on an opened side, until a remaining driving amount becomes equal to or less than a predetermined amount.

34. (previously presented) The lens apparatus according to claim 32, wherein the controller sets the deceleration control pattern in which, when the aperture value is on a

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narrowed side relative to a predetermined aperture value, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the aperture value is on an opened side, after a remaining driving amount becomes equal to or less than a predetermined amount.

35. (canceled)

36. (previously presented) A camera comprising:

an image-taking optical system which includes a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects an aperture value of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the aperture value detected by the state detector.

37. (currently amended) A camera comprising:

an image-taking optical system which includes a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is

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stopped at a target position by performing deceleration control in accordance with a predetermined deceleration control pattern; and

a state detector which detects ~~an aperture value~~ a focal length of the image-taking optical system,

wherein the controller changes the deceleration control pattern in accordance with the ~~aperture value~~ focal length detected by the state detector, and

the controller sets the deceleration control pattern in which, when the focal length of the image-taking optical system is on a wide-angle side closer to a wide-angle end than a predetermined focal length, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the focal length is on a telephoto side, after a remaining driving amount becomes equal to or less than a predetermined amount.

38. (previously presented) The camera according to claim 36, wherein the controller sets the deceleration control pattern in which, when the aperture value is on a narrowed side relative to a predetermined aperture value, the motor is decelerated for stopping at a deceleration rate smaller than a deceleration rate when the aperture value is on an opened side, until a remaining driving amount becomes equal to or a predetermined amount.

39. (previously presented) The camera according to claim 36, wherein the controller sets the deceleration control pattern in which, when the aperture value is on a narrowed side relative to a predetermined aperture value, the motor is decelerated for stopping at a deceleration rate larger than a deceleration rate when the aperture value is on

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an opened side, after a remaining driving amount becomes equal to or less than a predetermined amount.

40. (previously presented) A lens apparatus comprising:

an image-taking optical system which includes a focusing lens and an aperture diaphragm;

a motor which drives the focusing lens;

a position detector which detects a position of the focusing lens;

a controller which controls the motor such that the focusing lens is stopped at a target position by performing deceleration control from the time when a difference between the target position and the position detected by the position detector is equal to or smaller than a predetermined amount; and

a state detector which detects an aperture value of the image-taking optical system,

wherein the controller changes the predetermined amount in accordance with the aperture value detected by the state detector, when the aperture value of the image-taking optical system is on a narrowed side relative to a predetermined aperture value.

41. (previously presented) The lens apparatus according to claim 40, wherein the controller sets the predetermined amount to a smaller amount when the aperture value is on a narrowed side relative to a predetermined aperture value as compared with an amount set when the aperture value is on an opened side.

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42. (previously presented) A camera system comprising:

the lens apparatus according to claim 32; and
a camera on which the lens apparatus is mountable.

43. (previously presented) A camera system comprising:

the lens apparatus according to claim 40; and
a camera on which the lens apparatus is mountable.

44. (canceled)

45. (previously presented) A lens apparatus comprising:

an image-taking optical system which includes a focusing lens a
diaphragm;

a motor which drives the focusing lens;

a controller which controls the motor such that the focusing lens is
stopped at a target position by performing deceleration control in accordance with a
deceleration pattern selected from a plurality of deceleration patterns which includes
different deceleration rate; and

a state detector which detects a state of the diaphragm of the image-
taking optical system,

wherein the controller selects the deceleration pattern based on the state of
the diaphragm detected by the state detector.